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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/682,589	09/25/2001	Minfeng Xu	15MG5685XU3	4349

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EXAMINER

RODRIGUEZ, ISABEL

ART UNIT PAPER NUMBER

2836

DATE MAILED: 07/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/682,589

Applicant(s)

XU ET AL.

Examiner

Isabel Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/25/01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-7 and 10-16 are rejected under 35 U.S.C. 102(a) as being anticipated by applicant's admitted prior art (AAPA).

a) Regarding claim 1, 7, and 12-13, AAPA discloses a superconducting magnet circuit (Fig. 1) comprising a superconducting coil assemblage including a plurality of spatially separated main magnet coil portions (12,14) connected in series to form at least one main coil series circuit and a plurality of spatially separated secondary magnet coil portions (16,18) connected in series to form at least one secondary coil series circuit, at least one temperature limiting circuit or quench heater or resistor circuits (20,22) and a superconductive switch (26).

b) Regarding claim 2, AAPA discloses the superconducting magnet wherein said coil portions are essentially completely in contact with fluid cryogen. See page 1 par. 0005.

c) Regarding claim 3, AAPA discloses the superconducting magnet wherein the superconducting coil assemblage has at least two main magnet coil portions (12,14) connected in series to form the main series coil circuit.

d) Regarding claim 4, AAPA discloses the superconducting magnet wherein the superconducting coil assemblage has at least two secondary magnet coil portions (16,18) connected in series to form the secondary series coil circuit.

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e) Regarding claim 5, AAPA discloses the superconducting magnet wherein the secondary magnet coil portions carry current in an opposite direction to the main magnet coil portions. See page 2 par. 0010.

f) Regarding claim 6, AAPA discloses the superconducting magnet wherein the secondary magnet coil portions form a shielding coil positioned to prevent stray magnetic fields from escaping the magnet assembly. See page 2 par. 0010.

g) Regarding claims 10 and 11, AAPA discloses the superconducting magnet comprising at least two quencher heater circuits (22, 20) wherein each quench heater circuit comprises at least two quench heaters. See fig. 1.

h) Regarding claims 14-16, it discloses the limitations of claims 1-2, 7, and 12-13 and is rejected as above.

3. Claims 1-16 are rejected under 35 U.S.C. 102(a) as being anticipated by Huang et al.

a) Regarding claim 1, 7, and 12-13, Huang et al. discloses a superconducting magnet circuit (Fig. 2) comprising a superconducting coil assemblage including a plurality of spatially separated main magnet coil portions (19,9) connected in series to form at least one main coil series circuit and a plurality of spatially separated secondary magnet coil portions (8,18) connected in series to form at least one secondary coil series circuit, at least one temperature limiting circuit or quench heater (49,59) or resistor circuits (40,50) and a superconductive switch (70).

b) Regarding claim 2, Huang et al. discloses the superconducting magnet wherein said coil portions are essentially completely in contact with fluid cryogen. See col. 1 lines 23-27

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c) Regarding claim 3, Huang et al. discloses the superconducting magnet wherein the superconducting coil assemblage has at least two main magnet coil portions (19,9) connected in series to form the main series coil circuit.

d) Regarding claim 4, Huang et al. discloses the superconducting magnet wherein the superconducting coil assemblage has at least two secondary magnet coil portions (8,18) connected in series to form the secondary series coil circuit.

e) Regarding claim 5, Huang et al. discloses the superconducting magnet wherein the secondary magnet coil portions carry current in an opposite direction to the main magnet coil portions. See page 2 par. 0010.

f) Regarding claim 6, Huang et al. discloses the superconducting magnet wherein the secondary magnet coil portions form a shielding coil positioned to prevent stray magnetic fields from escaping the magnet assembly.

g) Regarding claims 8-9, Huang et al. discloses the superconducting magnet wherein at least one quench heater is in thermal contact with each coil portion. See col. 3 lines 37-40. It is inherent that the number of said heaters connected in parallel is at least equal to the number of coils.

h) Regarding claims 10 and 11, Huang et al. discloses the superconducting magnet comprising at least two quencher heater circuits (49,59) wherein each quench heater circuit comprises at least two quench heaters. See fig. 1.

i) Regarding claims 14-16, it discloses the limitations of claims 1-2, 7, and 12-13 and is rejected as above.

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Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isabel Rodriguez whose telephone number is 703-305-4761. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 703-308-3119. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-7704 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

IR
May 2, 2003



BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800